



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/588,463

08/23/2006

Stefan Vogelin

5297/269

5486

20306

7590

03/23/2009

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP

300 S. WACKER DRIVE

32ND FLOOR

CHICAGO, IL 60606

EXAMINER

BOSWORTH, KAMI A

ART UNIT

PAPER NUMBER

3767

MAIL DATE

DELIVERY MODE

03/23/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/588,463

**Applicant(s)**

VOGELIN ET AL.

**Examiner**

KAMI A. BOSWORTH

**Art Unit**

3767

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 18-27 and 29-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-27 and 29-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Paper No(s)/Mail Date \_\_\_\_\_
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This office action is responsive to the amendment filed on 1/26/2009. As directed by the amendment: claims 18, 19, 22, 31, 37, and 40 have been amended, claim 28 has been cancelled, and new claims 41, 42, and 43 have been added. Thus, claims 18-27 and 29-43 are presently pending in this application.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 18, 19, 25, 26, 30, 32, 33, 42, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Samson (US Pat 5,415,632) in view of Guala (US Pat 6,390,130).

4. Re claim 18, Samson discloses a breast shield set 10 (Fig 1) for pumping off human breast milk, the breast shield set comprising a breast shield 24 (Fig 3), a breast shield connector 30 (Fig 3) with a threaded attachment (Col 3, Line 52) for connection to a milk collection vessel 14 (Fig 3), and a valve 16 (Fig 3) for limiting a dead volume during pumping off of breast milk, wherein the valve has a valve seat 36 (Fig 3) and a valve body 42 (Fig 3) with a circular diaphragm (Col 4, Lines 10-11), the valve body being arranged over the valve seat and closing the valve seat sealingly when it bears on said valve seat (Col 4, Lines 14-18), and the valve seat and valve body having openings

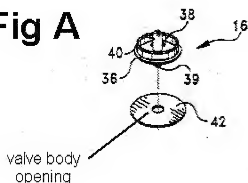
(opening 38 in valve seat 36 and "valve body opening" in valve body 42; best shown in Fig A below) which are offset relative to one another (best shown in Fig A below) and which form a free passage when the diaphragm of the valve body lifts (Col 4, Lines 18-24). Samson does not disclose that the diaphragm valve body has openings which are elongated, uniformly distributed along a circle in the periphery of the diaphragm, and are separated from one another by webs; nor does Samson disclose that the diaphragm is designed to be weaker in the area adjacent to the webs or that the openings of the diaphragm further comprise compact openings which are present adjacent to the webs.

Guala, however, teaches a diaphragm valve 9' (Fig 2) having elongate openings 14'A (best seen in Fig B below) which are uniformly distributed along a circle in the periphery of the diaphragm (as seen in Fig 2) wherein the elongate openings are separated from one another by webs 12' (Fig 2) and compact openings 14'B (best seen in Fig B below) which are present adjacent to the webs (as seen in Fig B below) for the purpose of allowing communication between two passageways (Col 5, Lines 41-43). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Samson to include a diaphragm valve having elongate openings and compact openings separated by webs, as taught by Guala, for the purpose of allowing communication between two passageways (Col 5, Lines 41-43).

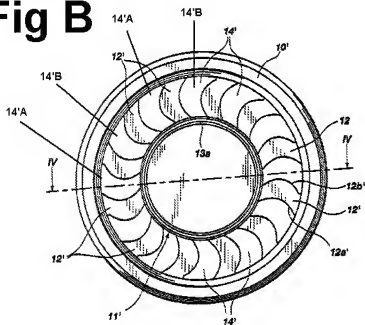
Guala does not explicitly teach that the diaphragm is weaker in the area adjacent to these webs; however, the diaphragm will inherently be weaker in an area adjacent to the webs (in this instance, the area formed between sealing lip 13a (Fig 3) and peripheral section 10' (Fig 3)) than to another portion of the diaphragm (in this instance,

the center of the central disk) since an area lying near an opening is inherently weaker than an area lying away from an opening.

**Fig A**



**Fig B**



5. Re claim 19, Samson discloses that the valve seat of the valve can be fitted onto the breast shield connector (Col 4, Lines 3-6).

6. Re claim 25, Samson discloses all the claimed features except that the circle has a center point that coincides with the center point of the circular diaphragm. Guala, however, teaches that the circle (formed by the elongated openings) has a center point

that coincides with the center point of the circular diaphragm since the elongate openings are equally spaced from the center of central disk 11' (Fig 3; Col 4, Lines 33-38) for the purpose of allowing communication between two passageways (Col 5, Lines 41-43). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Samson to include coinciding center points, as taught by Guala, for the purpose of allowing communication between two passageways (Col 5, Lines 41-43).

7. Re claim 26, Samson discloses all the claimed features except that the circular ring formed by the elongate openings has webs and a width that is a multiple smaller than the smaller radius of the circular ring. Guala, however, teaches that the elongate openings form a common circular ring (Fig 3; Col 4, Lines 33-38) provided with webs 12' (Fig 3) for the purpose of allowing communication between two passageways (Col 5, Lines 41-43). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Samson with a circular ring, as taught by Guala, for the purpose of allowing communication between two passageways (Col 5, Lines 41-43). Furthermore, Guala does not explicitly teach dimensions of the ring, however, it would have been obvious to one having ordinary skill in the art at the time the invention was made to create the circular ring formed by the elongate openings to have a width that is a multiple smaller than its smaller radius, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

8. Re claim 30, Samson discloses all the claimed features except that compact openings are present adjacent to the webs and are arranged in the weakened area of the diaphragm. Guala, however, teaches compact openings 14' (Fig 3) adjacent to webs 12' (Fig 3) that are arranged in the weakened area (the area formed between sealing lip 13a (Fig 3) and peripheral section 10' (Fig 3)) of the diaphragm for the purpose of allowing communication between two passageways (Col 5, Lines 41-43). Therefore, it would have been obvious to one of ordinary skill at the time the invention was made to modify Samson to include compact openings arranged in a weakened area, as taught by Guala, for the purpose of allowing communication between two passageways (Col 5, Lines 41-43).

9. Re claims 32 and 33, Samson discloses all the claimed features except that the valve body has a cylindrical jacket connected circumferentially to the plane disk diaphragm. Guala, however, teaches that the diaphragm except for the openings and weakened areas is designed as a plane, closed disk (Col 4, Line 34) which is connected circumferentially to a cylindrical jacket 10' (Fig 2) for the purpose of holding the diaphragm in the valve seat (Col 4, Lines 57-58). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Samson to include a cylindrical jacket, as taught by Guala, for the purpose of holding the diaphragm in the valve seat (Col 4, Lines 57-58).

10. Re claim 42, Samson discloses a breast shield set 10 (Fig 1) for pumping off human breast milk, the breast shield set comprising a breast shield 24 (Fig 3), a breast shield connector 30 (Fig 3) with a threaded attachment (Col 3, Line 52) for connection to

a milk collection vessel 14 (Fig 3), and a valve 16 (Fig 3) for limiting a dead volume during pumping off of breast milk, wherein the valve has a valve seat 36 (Fig 3) and a valve body 42 (Fig 3) with a circular diaphragm (Col 4, Lines 10-11), the valve body being arranged over the valve seat and closing the valve seat sealingly when it bears on said valve seat (Col 4, Lines 14-18), and the valve seat and valve body having openings (opening 38 in valve seat 36 and "valve body opening" in valve body 42; best shown in Fig A below) which are offset relative to one another (best shown in Fig A below) and which form a free passage when the diaphragm of the valve body lifts (Col 4, Lines 18-24). Samson does not disclose that the diaphragm valve body has plural openings which are elongated, uniformly distributed along a circle in the periphery of the diaphragm, and are separated from one another by webs; nor does Samson disclose that the diaphragm is designed to be weaker in the area adjacent to the webs or that the diaphragm comprises thinned parts in the area adjacent to these webs, these thinned parts making the diaphragm weaker in this area.

Guala, however, teaches a diaphragm valve 9' (Fig 2) having elongate openings 14'A (best seen in Fig B above) which are uniformly distributed along a circle in the periphery of the diaphragm (as seen in Fig 2) wherein the elongate openings are separated from one another by webs 12' (Fig 2) for the purpose of allowing communication between two passageways (Col 5, Lines 41-43). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Samson to include a diaphragm valve having elongate openings separated by



webs, as taught by Guala, for the purpose of allowing communication between two passageways (Col 5, Lines 41-43).

Guala also teaches thinned parts in an area adjacent to the webs (in this instance, the area formed between sealing lip 13a (Fig 3) and peripheral section 10' (Fig 3)) (these parts are thinned compared to sealing lip 13a, Fig 3). Guala does not explicitly teach that the diaphragm is weaker in this area; however, the diaphragm will inherently be weaker in an area adjacent to the webs than to another portion of the diaphragm (in this instance, the center of the central disk) since an area lying near an opening is inherently weaker than an area lying away from an opening.

11. Re claim 43, Samson discloses a breast shield set 10 (Fig 1) for pumping off human breast milk, the breast shield set comprising a breast shield 24 (Fig 3), a breast shield connector 30 (Fig 3) with a threaded attachment (Col 3, Line 52) for connection to a milk collection vessel 14 (Fig 3), and a valve 16 (Fig 3) for limiting a dead volume during pumping off of breast milk, wherein the valve has a valve seat 36 (Fig 3) and a valve body 42 (Fig 3) with a circular diaphragm (Col 4, Lines 10-11), the valve body being arranged over the valve seat and closing the valve seat sealingly when it bears on said valve seat (Col 4, Lines 14-18), and the valve seat and valve body having openings (opening 38 in valve seat 36 and "valve body opening" in valve body 42; best shown in Fig A below) which are offset relative to one another (best shown in Fig A below) and which form a free passage when the diaphragm of the valve body lifts (Col 4, Lines 18-24). Samson does not disclose that the diaphragm valve body has plural openings which are elongated, uniformly distributed along a circle in the periphery of the

diaphragm, and are separated from one another by webs; nor does Samson disclose that the diaphragm is designed to be weaker in the area adjacent to the webs. Further, Samson does not disclose that the valve body comprises the diaphragm and a cylindrical jacket wherein the valve body is a unitary part and wherein the jacket can be fitted over the valve seat.

Guala, however, teaches a diaphragm valve 9' (Fig 2) having elongate openings 14'A (best seen in Fig B above) which are uniformly distributed along a circle in the periphery of the diaphragm (as seen in Fig 2) wherein the elongate openings are separated from one another by webs 12' (Fig 2) for the purpose of allowing communication between two passageways (Col 5, Lines 41-43). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Samson to include a diaphragm valve having elongate openings separated by webs, as taught by Guala, for the purpose of allowing communication between two passageways (Col 5, Lines 41-43).

Further, Guala teaches that the valve body 9' (Fig 2) comprises the diaphragm and a cylindrical jacket 10' (Fig 2) that surrounds the diaphragm (as seen in Fig 2), wherein the valve body is a unitary part (as seen in Fig 2) and wherein the jacket can be fitted over a valve seat 16' (as seen in Fig 1) for the purpose of holding the diaphragm in the valve seat (Col 4, Lines 57-58). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Samson to include a cylindrical jacket, as taught by Guala, for the purpose of holding the diaphragm in the valve seat (Col 4, Lines 57-58).

Guala does not explicitly teach that the diaphragm is weaker in the area adjacent to these webs; however, the diaphragm will inherently be weaker in an area adjacent to the webs (in this instance, the area formed between sealing lip 13a (Fig 3) and peripheral section 10' (Fig 3)) than to another portion of the diaphragm (in this instance, the center of the central disk) since an area lying near an opening is inherently weaker than an area lying away from an opening.

12. Claims 22, 23, 24, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Samson (US Pat 5,415,632) in view of Edwards et al. (US Pat 5,025,829).

13. Re claim 22, Samson discloses a breast shield set 10 (Fig 1) for pumping off human breast milk, the breast shield set comprising a breast shield 24 (Fig 3), a breast shield connector 30 (Fig 3) with a threaded attachment (Col 3, Line 52) for connection to a milk collection vessel 14 (Fig 3), and a valve 16 (Fig 3) for limiting a dead volume during pumping off of the breast milk, in which the valve has a valve seat 36 (Fig 3) and a valve body 42 (Fig 3) closing the valve seat. Samson does not disclose that at least one part of the breast shield is made from a non-autoclavable material. Edwards et al., however, teaches a valve body for use in pumping apparatuses that is made from thermoplastic elastomer (Col 2, Lines 51-52), a known non-autoclavable material, for the purpose of providing adequate flexibility (Col 2, Lines 58-59). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Samson to include a valve made of thermoplastic elastomer, as taught by Edwards et al., for the purpose of providing adequate flexibility (Col 2, Lines 58-59).

14. Re claim 23, Samson discloses all the claimed features except that the valve body is made from the non-autoclavable material. Edwards et al., however, teaches a valve body 10 (Fig 1) for use in pumping apparatuses that is made from thermoplastic elastomer (Col 2, Lines 51-52), a known non-autoclavable material, for the purpose of providing adequate flexibility (Col 2, Lines 58-59). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Samson to include a valve made of thermoplastic elastomer, as taught by Edwards et al., for the purpose of providing adequate flexibility (Col 2, Lines 58-59).

15. Re claim 24, Samson discloses that the breast shield and the breast shield connector are together formed in one piece (Fig 3; Col 3, Lines 50-53).

16. Re claim 41, Samson discloses a breast shield set 10 (Fig 1) for pumping off human breast milk, the breast shield set comprising a breast shield 24 (Fig 3), a breast shield connector 30 (Fig 3) with a threaded attachment (Col 3, Line 52) for connection to a milk collection vessel 14 (Fig 3), and a valve 16 (Fig 3) for limiting a dead volume during pumping off of breast milk, wherein the valve has a valve seat 36 (Fig 3) and a valve body 42 (Fig 3) with a circular diaphragm (Col 4, Lines 10-11), the valve body being arranged over the valve seat and closing the valve seat sealingly when it bears on said valve seat (Col 4, Lines 14-18), and the valve seat and valve body having openings (opening 38 in valve seat 36 and "valve body opening" in valve body 42; best shown in Fig A above) which are offset relative to one another (best shown in Fig A above) and which form a free passage when the diaphragm of the valve body lifts (Col 4, Lines 18-24). Samson does not disclose that the diaphragm valve body has plural openings

which are elongated arc-shaped comprising a longitudinal dimension extending along a circle, uniformly distributed along said circle in the periphery of the diaphragm, and are separated from one another by webs; nor does Samson disclose that the diaphragm is designed to be weaker in the area adjacent to the webs.

Edwards et al., however, teaches a diaphragm valve 10 (Fig 1) having elongate openings 16 (Fig 1) comprising a longitudinal dimension extending along a circle in the periphery of the diaphragm (as seen in Fig 1) and uniformly distributed along said circle (as seen in Fig 1) wherein the elongate openings are separated from one another by webs 20 (Fig 1) for the purpose of providing area for flow (Col 3, Lines 57-59). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Samson to include a diaphragm valve having elongate openings separated by webs, as taught by Edwards et al., for the purpose of providing area for flow (Col 3, Lines 57-59).

Edwards et al. does not explicitly teach that the diaphragm is weaker in the area adjacent to these webs; however, the diaphragm will inherently be weaker in an area adjacent to the webs (in this instance, the area formed between the outer diameter of the diaphragm and inner diameter D1 (Fig 1)) than to another portion of the diaphragm (in this instance, the center of the central disk) since an area lying near an opening is inherently weaker than an area lying away from an opening.

17. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Samson (US Pat 5,415,632)/Guala (US Pat 6,390,130) in view of Edwards et al. (US Pat 5,025,829) and Ytteborg (PG PUB 2003/0153869) .

18. Re claims 20 and 21, Samson/Guala disclose all the claimed features except that the breast shield, connector, and valve seat are made of the autoclavable material polypropylene and that the valve body is made of the non-autoclavable material thermoplastic elastomer. Ytteborg, however, teaches a breast shield set made entirely of the autoclavable material polypropylene (Para 58) for the purpose of allowing strong cleaning (Para 58). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Samson/Guala to include a breast shield, connector, and valve seat made of polypropylene, as taught by Ytteborg, for the purpose of allowing strong cleaning (Para 58). Furthermore, Edwards et al. teaches a valve body 10 (Fig 1) for use in pumping apparatuses that is made from thermoplastic elastomer (Col 2, Lines 51-52), a known non-autoclavable material, for the purpose of providing adequate flexibility (Col 2, Lines 58-59). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Samson/Guala to include a valve body made of thermoplastic elastomer, as taught by Edwards et al., for the purpose of providing adequate flexibility (Col 2, Lines 58-59).

19. Claims 27, 38, 39, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Samson (US Pat 5,415,632)/Guala (US Pat 6,390,130) in view of Edwards et al. (US Pat 5,025,829).

20. Re claim 27, Samson/Guala disclose all the claimed features except that exactly three elongate openings and three webs are present. Edwards et al., however, teaches a valve body 10 (Fig 1) having three elongate openings 16 (Fig 1) and three webs 20 (Fig 1) (Col 3, Lines 49-54) for the purpose of providing area for flow (Col 3, Lines 57-

59). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Samson/Guala to include exactly three elongate openings and three webs, as taught by Edwards et al., for the purpose of providing area for flow (Col 3, Lines 57-59).

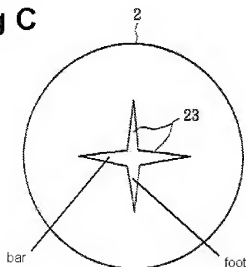
21. Re claims 38, 39, and 40, Samson/Guala disclose all the claimed features except that the valve body is made of the non-autoclavable material thermoplastic elastomer. Edwards et al., however, teaches a valve body 10 (Fig 1) for use in pumping apparatuses that is made from thermoplastic elastomer (Col 2, Lines 51-52), a known non-autoclavable material, for the purpose of providing adequate flexibility (Col 2, Lines 58-59). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Samson/Guala to include a valve body made of thermoplastic elastomer, as taught by Edwards et al., for the purpose of providing adequate flexibility (Col 2, Lines 58-59).

22. Claims 29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Samson (US Pat 5,415,632)/Guala (US Pat 6,390,130) in view of Okawa et al. (US Pat 5,897,033).

23. Re claims 29 and 31, Samson/Guala disclose all the claimed features except that the compact openings have a T-shaped configuration where a bar transversely extends over a foot oriented toward the webs and the center of the circle of the diaphragm. Okawa et al., however, teach a valve 2 (Fig 3b) having a compact opening 23 (Fig 3b) with a T-shaped configuration having a foot (best seen in Fig C below) and a bar (best seen in Fig C below) extending transversely over the latter for the purpose of regulating

flow (Col 3, Lines 62-63). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Samson/Guala to include T-shaped openings, as taught by Okawa et al., for the purpose of regulating flow (Col 3, Lines 62-63). Okawa et al. does not teach that the foot is oriented toward the webs and radially toward a center point of the circle of the diaphragm; however, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the shape and orientation of the compact openings of Guala to have a T-shaped configuration, as taught by Okawa et al., since such a modification would have involved a mere change in the form or shape of a component. A change in form or shape is generally recognized as being within the level of ordinary skill in the art. *In re Dailey*, 149 USPQ 47 (CCPA 1976).

**Fig C**



24. Claims 34, 35, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Samson (US Pat 5,415,632)/Guala (US Pat 6,390,130) in view of Nuesch (US Pat 6,110,141).

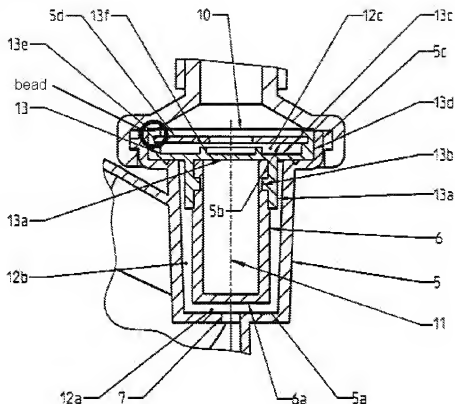


25. Re claims 34 and 35, Samson/Guala disclose all the claimed features except that the cylindrical jacket has at least one notch extending parallel to a center axis of the jacket and has an inner face provided with at least one groove extending at least partially about the circumference. Nuesch, however, teaches a cylindrical jacket 13d (Fig 3) having a notch (formed by groove 13e, Fig 2) extending parallel to a center axis 11 (Fig 2) and having an inner face (see in Fig 3) provided with one groove 13e (Fig 3) extending at least partially about the circumference for the purpose of holding parts of the valve in a specific configuration (Col 4, Lines 26-27). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Samson/Guala with a notch and a groove, as taught by Nuesch, for the purpose of holding parts of the valve in a specific configuration (Col 4, Lines 26-27).

26. Re claim 36, Samson/Guala disclose all the claimed features except that the cylindrical jacket is provided with a bead extending at least partially about the circumference. Nuesch, however, teaches a cylindrical jacket 13d (Fig 3) having a bead (formed above groove 13e as seen in Fig D below) extending about the circumference for the purpose of holding parts of the valve in a specific configuration (Col 4, Lines 26-27). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Samson/Guala to include a bead, as taught by Nuesch, for the purpose of holding parts of the valve in a specific configuration (Col 4,

Lines 26-27).

**Fig D**



27. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over (US Pat 5,415,632)/Guala (US Pat 6,390,130) in view of Aoki et al. (US Pat 3,981,636).

28. Re claim 37, Samson/Guala disclose all the claimed features except that the valve seat has a plane surface with a central opening and extending openings interrupted by webs. Aoki et al., however, teaches a valve seat 62 (Fig 6) having a plane surface (as seen in Fig 5) with a central opening 621 (Fig 6) and with openings 622a (Fig 6) extending around this central opening, the extending openings being interrupted by webs (as seen in Fig 6) for the purpose of regulating flow (Col 3, Lines

44-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Samson/Guala with a valve seat having extending openings and webs, as taught by Aoki et al., for the purpose of regulating flow (Col 3, Lines 44-45).

### ***Response to Arguments***

29. Applicant's arguments filed 1/26/2009 have been fully considered but they are not persuasive.

30. In response to applicant's argument that "neither Guala nor Sampson teaches elongate openings and additional compact openings", the Examiner respectfully disagrees. As described above, Guala discloses elongate openings 14'A and compact openings 14'B as claimed in independent claim 18. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "the compact openings compensate stresses such that the functionality of the valve is guaranteed even after it has been cleaned by heating [...and] prevent stresses when the diaphragm is cooled after its production") are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

31. In response to applicant's argument that Edward does not explicitly disclose that thermoplastic elastomer is a non-autoclavable material and that a person skilled in the art has no hint to use such a material, the Examiner respectfully disagrees. As the

applicant discloses that thermoplastic elastomer is a known non-autoclavable material (Specification: page 5, lines 29-32 and page 12, lines 11-13), the previous (and current) rejection is proper.

### ***Conclusion***

32. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **KAMI A. BOSWORTH** whose telephone number is (571)270-5414. The examiner can normally be reached on **Monday - Thursday, 7:00 am to 4:00 pm EST**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Simons can be reached on (571)272-4965. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. A. B./  
Examiner, Art Unit 3767  
/Kevin C. Simons/  
Supervisory Patent Examiner, Art Unit 3767